REMARKS

Claims 1, 3, 6 and 9 have been amended to further distinguish the claimed invention from the applied art. Support for the amendments can be found throughout Applicants' originally filed Specification, for example from page 10, line 21 to page 11, line 15. No new matter has been entered.

Turning to the rejection of claims 1, 3, 4 and 6-12 under 35 U.S.C. § 103(a) as being unpatentable over the newly cited U.S. patent publication to Hirsch et al. ("Hirsch"), amended independent claim 1 requires, in part, "said permeation control film restricts the amount of transmission of said supplementary liquid fuel based on a fuel concentration of a liquid fuel in said fuel supply system, and wherein said permeation control film comprises a liquid fuel permeable film that transmits said supplementary liquid fuel." Hirsch fails to teach or suggest at least these features of Applicants' independent claim 1.

Hirsch teaches a vapor feed fuel cell system which employs a methanol vapor delivery film (MDF) to "effect a phase change on the liquid fuel coming from the fuel tank." Hirsch, paragraph [0049]; Figs. 1 and 2. The fuel in Hirsch's fuel tank (110/210) is converted into a vapor fuel by the MDF (112/212) whereby it can be utilized by the fuel cell (102/202). Thus, the teachings of Hirsch are materially different from, and in stark contrast to, the liquid fuel supply system of Applicants' independent claim 1. Hirsch teaches a vapor fuel supply system, while Applicants claim a fuel supplier in a liquid fuel supply system.

Hirsch also fails to teach a "permeation control film that comprises a liquid fuel permeable film," as required by Applicants' independent claim 1. Instead, as noted above, Hirsch merely teaches an MDF, which converts a liquid fuel to a vapor fuel. Hirsch's MDF cannot be said to be a liquid fuel permeable film because liquid fuel cannot permeate the MDF.

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Rather, liquid fuel undergoes a phase change through the MDF. Applicants' liquid fuel permeable film, by contrast, allows high-concentration liquid fuel to pass from fuel vessel 715 through the permeable film to vessel 713, which contains lower concentration liquid fuel. *See, e.g.*, Applicants' Specification at page 10, line 21 to page 11, line 15.

Moreover, Hirsch fails to teach "said permeation control film restricts the amount of transmission of said supplementary liquid fuel based on a fuel concentration of a liquid fuel in said fuel supply system" as required by claim 1. In fact, Hirsch fails to teach anything regarding a relationship between an amount of fuel transmitted and a concentration of a liquid fuel in a fuel supply system. As noted in Applicants' specification, at page 4, lines 5-8, "while the concentration of the fuel in the fuel supply system is maintained at a certain concentration where crossover is prevented, the liquid fuel decreased by the operation of the fuel cell can be supplemented with the fuel from the fuel vessel, so that the liquid fuel concentration in the fuel supply system can be controlled to a predetermined concentration." Hirsch fails to teach the requisite fuel transmission, by a permeation control film, based on such a relationship between a supplementary liquid fuel and a liquid fuel in the supply system.

Moreover, there are other differences. In Hirsch, MDF112 and the fuel delivery regulation assembly 120 control both the flow of the fuel from the fuel tank 110 to vapor chamber 116 and the vaporization of the liquid fuel. The concentration of the fuel does not change when the fuel flows from fuel tank 110 to vapor chamber 116.

On the other hand, in accordance with the instant claimed invention, the concentration of the liquid fuel in the fuel vessel is adjusted to power generation, and the permeation control film and the shutter member control the movement of the constituent of the fuel, and the supplementary liquid is more concentrated than the liquid fuel in the fuel vessel.

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For at least the foregoing reasons it is respectfully submitted that Hirsch cannot be said to anticipate or render obvious Applicants' independent claim 1. Claims 3, 4 and 6-12 all depend, either directly or indirectly, upon independent claim 1 and are therefore allowable over Hirsch for those reasons adduced above relative to independent claim 1, as well as for their own additional limitations.

Having dealt with all the objections raised by the Examiner, the Application is believed to be in order for allowance. Early and favorable action is respectfully requested.

In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account Number 08-1391.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Patent Office via the electronic filing procedure on December 10, 2009.

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